

Learning Center Library Contents



Flying Light Twins Safely P-8740-66

Author: Richard W. Carlson

Date: 2001

Introduction

Note: Graphics and some of the material in this document have been modified from the original printed version.

The major difference between flying a light twin and a single engine airplane is knowing how to manage the flight if one engine loses power. Safe flight with one engine inoperative (OEI) requires an understanding of the basic aerodynamics involved as well as proficiency in single engine flight. This booklet deals extensively with the numerous aspects of OEI flight. You must remember, however, not to place undue emphasis on mastery of OEI flight as the sole key to flying light twins safely.

The Normal Takeoff

For normal takeoff planning, pilots should use the manufacturer's recommended rotation speed (V_r) or lift-off speed (V_{lof}). If no such speeds are published, a minimum of V_{mc} plus five knots should be used for V_r . As a rule, light twins should not be airborne before reaching V_{mc} .

After lift-off, the next consideration is to gain altitude as rapidly as practicable. After leaving the ground, altitude gain is more important than achieving an enroute climb airspeed. The airplane should be allowed to accelerate in a shallow climb to attain V_y , the best rate of climb speed when both engines are operating. V_y should be maintained until a safe single engine maneuvering altitude, typically at least 400 feet AGL, has been achieved. (If V_y would result in a pitch attitude in excess of 15 degrees, consider limiting the initial pitch attitude to 15 degrees to minimize control difficulty if an engine is lost.) Then a transition to an enroute climb can be made as climb power is set.

Landing gear retraction should occur after a positive rate of climb is established, but not before reaching a point from which a safe landing can no longer be made on the runway or overrun remaining